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ABSTRACT

The ninth, and final, volume of a series on Vocational Education Planning explains that the local analysis information system is described in volumes 1-3 and 5-7. The State level system is described in volume 4. Volume 8 brings together the various training materials prepared during the project. The final volume also contains remarks on the system for vocational education planning in local education agencies and a brief introduction to the application processing/fund allocation system. (AG)

A Vocational Education Planning System
FOR LOCAL SCHOOL DISTRICTS

NEW JERSEY STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
225 WEST STATE STREET
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GUIDE TO PROJECT MANUALS

Vol. IX

CE 000 735

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A VOCATIONAL EDUCATION PLANNING SYSTEM FOR LOCAL SCHOOL DISTRICTS

Volume IX: Guide To Project Manuals

Produced For

Edison Township

Linden

Lower Camden County Regional
High School District

Middlesex County Vocational Schools

Somerset County Vocational School
and Technical Institute

and

The State Department of Education
Division of Vocational Education

With the Assistance of

Government Studies and Systems, Inc.

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July 1970 - June 1973

Acknowledgments

The Division of Vocational Education of the New Jersey State Department of Education has long recognized the need to introduce more science into the art of educational planning. This publication is an outgrowth of its efforts to devise more systematic, objective, and precise bases for program decisions. The Division has determined, moreover, that the key to the success of its system is to insure that the Local Education Agency has an advanced planning capability.

Grateful acknowledgment is given to Dr. Robert M. Worthington, former Assistant Commissioner of Education (DVE), for initiating this study and to Mr. Stephen Poliacik, Assistant Commissioner of Education (DVE), for his guidance and support in continuing the study when problems seemed insurmountable. Also, to Former Commissioner of Education, Dr. Carl L. Marburger, and Acting Commissioner of Education, Dr. Edward W. Kilpatrick for their support and patience. Appreciation is further expressed to the Superintendents of the five LEAs: Mr. Charles A. Boyle, Edison; Mr. Americo R. Taranto, Linden; Mr. Joseph R. Wilson, Somerset; Mr. Leonard A. Westman; Lower Camden County Regional High School; and Dr. J. Henry Zanzalari, Middlesex County Vocational Schools and Technical Institute for their cooperation and understanding.

Finally, to the staff of the Division of Vocational Education, and particularly Dr. Morton Margules, Associate Director, State Division of Vocational Education (Ancillary

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The principal author of Volume IX is:

Roger L. Sisson

Series Preface

Planning is a universal concept based on the proposition that if you think a bit about what you intend to do, you are likely to do whatever it is better than if you don't think about it. This process of thinking ahead generally involves gathering information, analyzing the information and then formulating one or more courses of action to follow. The planning system presented here embodies these elements in operational procedures for planning for school districts.

The Vocational Education Planning System draws heavily upon a growing body of experience in educational planning which has been generated by Government Studies and Systems (GSS). The introduction describes these concepts. Out of this experience has evolved a set of planning techniques, particularly suited by design and through actual use, to enable effective planning. The bases for uses of indicators, planning factors, forecasts, models and others of these techniques are clearly laid out in this manual as they appear in the normal course of the planning cycle.

This manual is one of several resulting from a project to design planning procedures for local and state vocational education agencies. This manual describes the overall planning process for LEAs. It is to be used in conjunction with the following manuals:

Volume I: Local Education Agency User's Manual

Volume II: Local Education Agency User's Data Collection Manual

Volume III:	Local Education Agency Planning Analyst's Procedures
Volume IV:	State Application Funding Procedures
Volume V:	Enrollment Forecasting Procedures
Volume VI:	Procedure for Estimating Adult and Post-Secondary Potential Enrollment
Volume VII:	Job Demand Forecasting Program
Volume VIII:	Training Materials
Volume IX:	Guide to Project Manuals

The most important ingredients in effective planning, however, are the people who do the planning. The planning team itself should include, at the very least, those who are going to be directly responsible for the execution of the plan, once developed, and those who are otherwise directly affected by the plan. People who participate in the planning process, who see their input take shape in a plan, tend to be better advocates and implementors of that plan.

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1. INTRODUCTION

The New Jersey Vocational Education Planning System Project has produced two analysis-information systems which support decision-making about vocational education at the local and the state level.

The local system is designed for use by either a vocational school district (such as an Area Vocational-Technical District) or by a comprehensive district which has vocational programs. (In fact, it can be used, with little modification, for vocational planning by Counties or even by general comprehensive schools.) This system is quite complete and includes procedures for estimating potential enrollment (social demand) and manpower (job) demand as well as for maintaining planning data and for computing resource and revenue requirements. This local system is described briefly in section 2 of this manual and in Volumes I, II, III, V, VI and VII of this series.

The system developed for the Division of Vocational Education, New Jersey Department of Education, maintains complete data on applications for funds and performs various analyses and ranking procedures to assist in allocating the funds. This system is described in section 3 of this guide and, in detail, in Volume IV of the series.

Volume VIII of the series brings together various training materials prepared during the project. These include a description of a linear programming approach to allocating funds, a discussion of overall planning at the Division level and a plan for disseminating the Local Educational Agency System within the state.

This project grew out of an earlier study* made for the Division by GSS personnel (then at Fels) under the impetus of Robert M. Worthington, then Assistant Commissioner of Education.

2. A VERY BRIEF INTRODUCTION TO THE GSS SYSTEM FOR VOCATIONAL EDUCATION PLANNING IN LOCAL EDUCATIONAL AGENCIES

The planning system has two major parts:

- a formal, annual process to insure that objectives are set, alternatives considered and a feasible plan developed (see figure 1)
- aids for predicting the resource requirements for any given plan (see Figure 2) and for estimating demands and revenues.

---

*Brewin, C. Edwin; Robert P. Cantine, Charles I. Goldman, Benjamin H. Renshaw, Report of a Proposed Planning System for the New Jersey Division of Vocational Education, Government Studies Center, Fels Institute, University of Pennsylvania, Feb. 1970.

Figure 1

ILLA VOCATIONAL EDUCATION PLANNING SYSTEM
(See Volume I)

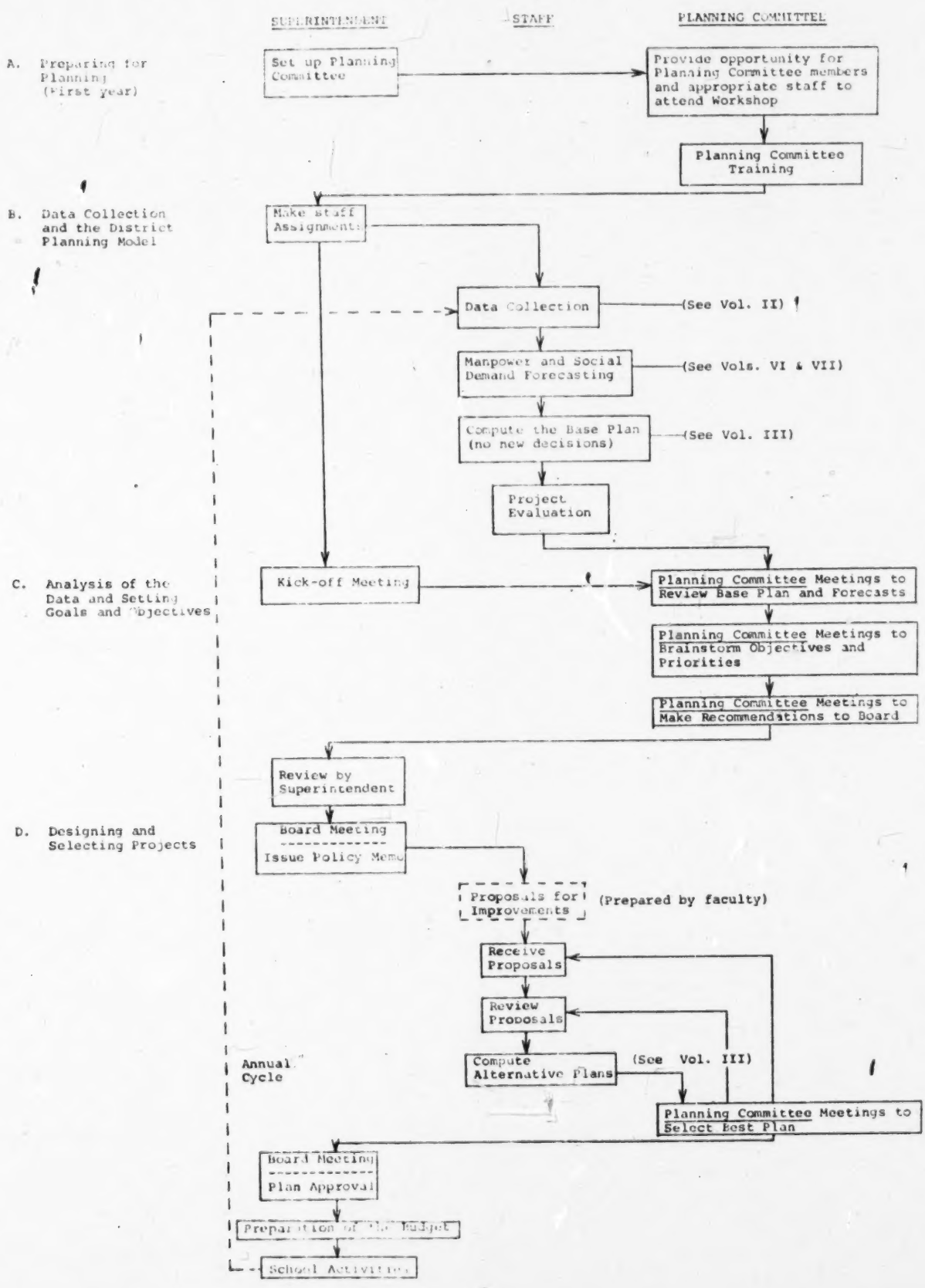
SUPERINTENDENT
STAFF
PLANNING COMMITTEE
A. Preparing for Planning (First year)
Set up Planning Committee
Provide opportunity for Planning Committee members and appropriate staff to attend Workshop
Planning Committee Training
B. Data Collection and the District Planning Model
Make Staff Assignments
Data Collection
(See Vol. II)
Manpower and Social Demand Forecasting
(See Vols. VI & VII)
Compute the Base Plan (no new decisions)
(See Vol. III)
Project Evaluation
C. Analysis of the Data and Setting Goals and Objectives
Kick-off Meeting
Planning Committee Meetings to Review Base Plan and Forecasts
Planning Committee Meetings to Brainstorm Objectives and Priorities
Planning Committee Meetings to Make Recommendations to Board
Review by Superintendent
D. Designing and Selecting Projects
Board Meeting
Issue Policy Memo
Proposals for Improvements
(Prepared by faculty)
Receive Proposals
Review Proposals
Compute Alternative Plans
(See Vol. III)
Annual Cycle
Planning Committee Meetings to Select Best Plan
Board Meeting
Plan Approval
Preparation of the Budget
School Activities

Figure 2
Cost and Resource Requirements
Prediction

BASE CASE - MAY 11, 1972
PLANNED PROGRAM ENROLLMENT - BY PROGRAM

LEVEL	PROG-IDEN	PROG-NAME	PLAN-YEAR 1972	1973	1974	1975	1976	1977
S	00492	DISTRIBUTIVE EDUCATION	77	115	130	130	130	130
	00709	HEALTH SERVICES	18	18	18	18	18	18
	00902	CLOTHING TECHNOLOGY	23	25	35	45	50	50
	01400	OFFICE OCCUPATIONS	210	240	263	289	319	361
	01401	OFFICE OCCUPATIONS ERMS	89	132	165	178	197	213
	01703	AUTO MECHANICS	33	40	50	50	50	50
	01710	BUILDING TRADES	44	50	50	50	50	50
	01713	DRAFTING	36	33	36	37	40	40
	01714	ELECTRICAL TRADES	39	40	50	50	50	50
	01719	PRINTING TRADES	44	50	50	50	50	50
	01723	MACHINE TRADES	42	50	55	55	55	55
	01726	COSMETOLOGY	60	50	50	50	50	50
	01729	COMMERCIAL FOODS	31	34	45	50	50	50
	11703	AUTOMOTIVE MAINTENANCE-ER	19	35	40	40	40	40
	11710	BUILDING TRADES-ER	11	20	28	34	38	42
	11713	DRAFTING - ER	36	36	36	36	36	36
	11726	COSMETOLOGY - ER	0	20	40	40	40	40
TOTAL			812	992	1141	1202	1263	1325

Tentative capacity (planned enrollment) decisions allow computation of future costs

BASE CASE - MAY 11, 1972
TOTAL VOCATIONAL PROGRAM COST WITH OVERHEAD

PLAN-YEAR	TOT-TCHR	MTS-TRV	MAINTENCE	EQPT-COST	OVERHEAD	TOT-COST	FST VOC-STUD	COST-PER-STU
1972	248261.	38446.	7081.	12730.	910818.	1216936.	812.0	1498.69
1973	255371.	50975.	9383.	10709.	1135799.	1462237.	992.0	1473.73
1974	224762.	63291.	11738.	7950.	1356335.	1664076.	1141.0	1458.41
1975	262241.	72404.	14329.	8985.	1539691.	1907660.	1202.0	1553.98
1976	304262.	81741.	17262.	11220.	1685021.	2099506.	1263.0	1662.32
1977	347614.	91812.	20495.	11955.	1881032.	2352908.	1325.0	1775.78

- ALTERNATIVE PLAN NO. 1 -

01703	AUTO MECHANICS	33	57	70	75	75	75
01710	BUILDING TRADES	44	74	75	75	75	75
01713	DRAFTING	36	52	52	53	57	60
01714	ELECTRICAL TRADES	39	63	70	75	75	75
01719	PRINTING TRADES	44	69	75	75	75	75
01723	MACHINE TRADES	42	55	75	80	80	80
01726	COSMETOLOGY	60	50	50	50	50	50
01729	COMMERCIAL FOODS	31	51	63	70	75	75

An alternative decision and its costs

PLAN-YEAR	TOT-TCHR	MTS-TRV	MAINTENCE	EQPT-COST	OVERHEAD	TOT-COST	FST VOC-STUD	COST-PER-STU
1972	248261.	38446.	7081.	12730.	910818.	1216936.	812.0	1498.69
1973	261649.	44313.	9383.	10709.	1219818.	1507372.	1132.0	1419.94
1974	292499.	60843.	11745.	7950.	1482174.	1854400.	1295.0	1431.97
1975	355542.	92239.	16431.	8985.	1619885.	2091077.	1378.0	1517.47
1976	434772.	104772.	17263.	11220.	1810410.	2358390.	1450.0	1621.65
1977	445174.	117653.	20507.	11955.	2022364.	2617653.	1528.0	1735.30

ALTERNATIVE PLAN NO. 1 - MAY 12, 1972
TEACHING REQUIREMENTS - ROUNDED TO NEAREST .5

LEVEL	PROG-IDEN	PROG-NAME	PLAN-YEAR	AVER-CLES-SIZE	TCHR-PDS	TCHR-WKS	TCHR-REQ	TCHR-AVL	TCHR-HIRES
S	01714	ELECTRICAL TRADES	1974	25.0	30.0	36.0	2.0	1.0	1.0
			1975	25.0	30.0	36.0	2.0	1.5	.5
			1976	25.0	30.0	36.0	2.0	1.5	.5
			1977	25.0	30.0	36.0	2.0	1.5	.5
	01719	PRINTING TRADES	1972	25.0	30.0	36.0	1.0	1.0	.0
			1973	25.0	30.0	36.0	1.5	1.0	.5
			1974	25.0	30.0	36.0	2.0	1.0	1.0
			1975	25.0	30.0	36.0	2.0	1.5	.5
			1976	25.0	30.0	36.0	2.0	1.5	.5
			1977	25.0	30.0	36.0	2.0	1.5	.5
	01723	MACHINE TRADES	1972	25.0	30.0	36.0	1.0	1.0	.0
			1973	25.0	30.0	36.0	1.5	1.0	.5
			1974	25.0	30.0	36.0	2.0	1.0	
				25.0	30.0	36.0	2.5	1.5	
				25.0	30.0	36.0	2.5		
					30.0	36.0	2.5		
					30.0	36.0			

Many types of alternatives & many analyses of them can be made, e.g. staff requirements

and

ALTERNATIVE PLAN NO. 1 - MAY 12, 1972
TOTAL VOCATIONAL PROGRAM COST WITH OVERHEAD

LEVEL	PROG-IDEN	PROG-NAME	PLAN-YEAR	TOT-TCHR	MTS-TRV	MAINTENCE	EQPT-COST	OVERHEAD	TOT-COST
S	01714	ELECTRICAL TRADES	1974	22457.	5270.	435.	400.	79816.	107[illegible].
			1975	27141.	6211.	780.	500.	88185.	122e37.
			1976	29355.	6832.	893.	600.	93462.	131172.
			1977	31706.	7516.	1012.	600.	99263.	140097.
	01719	PRINTING TRADES	1972	13945.	10650.	396.	900.	42344.	94[illegible].
			1973	15144.	17[illegible].	572.	500.	74660.	113[illegible].
			1974	25104.	20645.	680.	500.	84892.	131831.
			1975	31149.	22[illegible].	740.	1000.	88185.	143[illegible].
			1976	33841.	24[illegible].	893.	1500.	93462.	150[illegible].
			1977	36323.	27461.	1012.	1500.	99263.	165[illegible].
	01723	MACHINE TRADES	1972	11[illegible].	1131.	366.	0.	47181.	60[illegible].
			1973	16[illegible].	1495.	539.	0.	71185.	90[illegible].
			1974	22657.	2443.	868.	0.	94692.	120e62.
			1975	31541.	2484.	832.	0.	99462.	134[illegible].
			1976	37436.	3153.	953.	1000.	99462.	142[illegible].
			1977	46421.	3468.	1079.	1000.	104465.	156[illegible].
	01726	COSMETOLOGY	1972	11[illegible].	3468.	523.	0.	47181.	62[illegible].
			1973	1[illegible].	3[illegible]	414.	0.	64769.	7[illegible].
			1974	14[illegible].	3429.	453.	400.	84564.	76[illegible].
			1975	19[illegible].	3770.	526.	500.	84776.	40[illegible].
			[illegible]	21[illegible].	4148.	595.	600.	89[illegible].	
				24[illegible].	4561.	674.	600.		
	01729			[illegible].	3[illegible].	276.			
					4[illegible].	422.			

Program costs

This system has been tested and is being put into use in LEAs in New Jersey. The Division of Vocational Education of the New Jersey Department of Education financed the project and contributed to the design and development.

The benefits of using the system are:

- Manpower demands and social demands (client desires for vocational education) will be more nearly met.
- Opportunity for wide participation in the objective-setting and alternative plan selection parts of the process. Roles are clearly defined.
- The policy trade-offs can be made with explicit forecasts of the consequences in terms of
    - resources needed
    - relationship of graduates to job openings
    - relationship of planned capacity to enrollees' desires
    - total costs and program costs (including allocated overhead)

3. A BRIEF INTRODUCTION TO THE APPLICATION PROCESSING/ FUND ALLOCATION SYSTEM

Deciding how to allocate funds to action agencies is now a familiar problem in local and state government. The decision-aiding system, primarily for use with Public Law 90-576 (now 92-318), has been developed for the New Jersey Division of Vocational Education by Government Studies and Systems. (This system, although designed for the state vocational education applications, can be adapted for any case that must allocate limited funds to a number of action agencies on the basis of their characteristics and data contained in applications.)

The examples of the system contained in this paper are taken from its operation in New Jersey. There, it is in regular use to allocate, keep track of and report on funds to over 4500 courses in more than 280 local educational agencies (LEAs).

Exhibit I shows a basic listing of a small part of the data in the file. The allocation procedure involves receiving <u>requests</u> from the LEA and performing the allocation analysis leading to <u>recommended</u> funding. After further adjustments and acceptance or rejection by the LEA a <u>commitment</u> is made.

Exhibit I

PAGE 11

FY 73 LISTING 14 AUG 72 CHANGES THROUGH BATCH 19
BY CO-LEA
NOTE --- 'APPL' MEANS PROGRAM

CO	LEA	LEA-NAME	APPL	PURP-USE	COURSE	PRO-SAL	TRAVEL	SUPPLS	EQUIP-PR	EQUIP-RT	MISC-CST	RECM-AMT	COMM-AMT	REQT-AMT
03	1360	EMERSON												
			B	G	03	752	100	0	0	0	753	1605	1605	5599
				S	02	0	0	0	0	0	0	0	0	5019
					04	0	0	0	0	0	0	0	0	5957
			E	F	101	763	0	0	0	0	685	1447	1447	15297
					102	1125	0	0	0	0	1431	2556	2556	7200
			F	S	01	0	0	0	0	0	0	0	0	7740
					02	0	0	0	0	0	0	0	0	12128
					03	0	0	0	0	0	0	0	0	10014
			H	S	05	3000	250	0	0	0	0	3250	3250	12900
				S	01	0	0	0	0	0	0	0	0	3050
					02	0	0	0	0	0	0	0	0	13100
					03	0	0	0	0	0	0	0	0	13800
					04	0	0	0	0	0	0	0	0	6450
	1370	ENGLEWOOD PUBLIC SCHOOLS												
			F	S	01	0	0	0	0	0	0	0	0	8020
			I	DIS	02	0	0	0	0	0	0	0	0	48422
				HAN	01	6500	300	550	3500	0	0	10850	10850	24500
			J	S	101	0	500	663	0	0	550	1713	1713	9039
	1450	FAIRLAWN HIGH SCHOOL												
			F	F	01	300	0	313	0	0	565	1178	1178	2355
			G	PS	01	810	0	0	0	0	0	810	810	6057
					02	720	0	0	0	0	0	720	720	5762
					03	720	0	0	0	0	0	720	720	5736
					04	0	0	0	0	0	0	0	0	6126
			H	S	01	0	0	0	0	0	0	0	0	15866
			I	HAN	01	0	0	0	0	0	0	0	0	31056
	1550	FORT LEE												
			B	G	01	0	0	0	0	0	0	0	0	10407
	1700	GARFIELD BOARD OF EDUCATION												
			B	G	01	0	0	0	0	0	0	0	0	14500
			H	G	01	4125	300	0	0	0	0	4425	4425	17690
	1760	GLEN ROCK JR SR HIGH												
			H	G	01	10875	300	0	0	0	0	11175	11175	15500
					02	0	0	0	0	0	0	0	0	21455
			I	HAN	01	6250	300	2238	7021	0	0	15809	15809	43624
	1860	HACKENSACK BOARD OF EDUCATION												
			N	A	116	1600	0	0	0	0	0	1600	1600	8500
				D	101	2400	0	1200	0	0	0	3600	3600	8000
					104	2200	250	500	0	0	0	2950	2950	5450
					105	2910	250	750	0	0	6083	10000	10000	20250
					107	463	100	300	0	0	462	1325	1325	1725

County

LEA name

Course ID

Program (Subject) Code

Purpose (Revenue) Code

salary

travel

supplies

equipment purchased

rented

recommended total

committed total

original request

This printout gives the basic recommended funding detail and also the requested and committed totals sorted by county, by LEA within the county, and by program area (subject area). Some typical subject area codes are:

A - agriculture
C - health occupations
G - technical education
L - vocational guidance & counseling
SCRD - county coordinators activities

"Purpose" is funding source designation, e.g.

A is funds for adult education
DIS is funds for disadvantage
RES is funds for research

All exhibits are reductions of computer printouts actually used or very similar to ones used by New Jersey staff (with proper names suppressed).*

Exhibit II is the same data as in I, sorted by program to facilitate analysis of funds requested for specific subject areas. This is useful in relating funding to manpower needs. Enrollment data is also in the file (see below) to permit further manpower matching studies.

Since the state vocational education division is organized by program, this printout also gives each program specialist his data.

*The system utilizes (and all outputs shown were produced by) a file maintenance - report generator software system called RAMIS, a proprietary product of MATHEMATICA, Inc., Princeton, New Jersey, on a 360/65 computer.

Exhibit II

FY 73 LISTING 14 AUG 72 CHANGES THROUGH BATCH 19
BY PROGRAM
NOTE --- 'APPL' MEANS PROGRAM

APPL	PURP-USE	CO	LEA	LEA-NAME	COURSE	PRO-SAL	TRAVEL	SUPPLS	EQUIP-PR	EQUIP-RT	MISC-CST	RECM-AMT	COMM-AMT	REQT-AMT
C	PS		39	5260	UNION COUNTY VOC-TECH SCHOOLS									
	02					4250	0	0	75	0	0	4325	4325	8800
	03					4750	0	0	1000	0	0	5750	5750	19200
	04					6400	0	0	277	0	3562	10239	10239	28119
	05					4750	0	0	1875	0	2387	9012	9012	26500
	06					5550	0	0	0	0	7375	12925	12925	41100
			41	5460	WARREN COUNTY VOC-TECH									
	01					6000	0	0	0	0	0	6000	6000	31500
		S	09	0720	CAPE MAY COUNTY VOCATIONAL BOARD OF EDUCATION									
	01					2024	0	0	0	0	0	2024	2024	13172
			11	5390	VINELAND BOARD OF EDUCATION									
	111					2167	0	0	0	0	0	2167	2167	21783
			15	1775	GLOUSTER COUNTY VOC-TECH									
	01					2750	0	0	0	0	0	2750	2750	21000
			23	1290	EDISON TOWNSHIP NEW JERSEY									
	101					1545	0	0	0	0	0	1545	1545	7518
	102					1500	0	0	0	0	0	1500	1500	13240
				2880	MADISON TOWNSHIP PUBLIC SCHOOLS									
	101					3000	0	0	0	0	0	3000	3000	25612
				5850	WOODBRIDGE BOARD OF EDUCATION									
	01					1192	0	0	0	0	0	1192	1192	6313
	02					2383	0	0	0	0	0	2383	2383	9653
			25	3260	MONMOUTH COUNTY VOCATIONAL SCHOOL DIST									
	01					2475	0	0	0	0	0	2475	2475	9900
	02					2750	0	0	0	0	0	2750	2750	11000
			29	0530	BRICK TOWNSHIP									
	01					3578	0	0	0	0	0	3578	3578	24117
				3790	OCEAN COUNTY VOCATIONAL TECHNICAL SCHOOL									
	01					2400	0	0	0	0	0	2400	2400	10195
	02					2490	0	0	0	0	0	2490	2490	10665
	03					2500	0	0	0	0	0	2500	2500	10155
	04					2500	0	0	0	0	0	2500	2500	10250
			39	4290	RAHWAY BOARD OF EDUCATION									
	101					1250	0	0	0	0	0	1250	1250	5050
*TOTAL C						456035	9530	2223	171523	0	163804	803115	803115	2939905

Sorted by program

Sub-sort by revenue source

totals for program

Exhibit III is the same data listed and summed by purpose to insure meeting goals specified in Federal and State legislation and Division policy. Totals by purpose are also computed.

This (Exhibit IV) is a summary of the committed funds (numbers are not actual in this case) showing totals both by revenue purpose and program (called "appl" since an application was submitted for each program area).

Summaries like this, and other short analytical reports, can be produced within minutes in the on-line computer system. Detailed listing (of the entire 4500 items where needed) can be produced in 2-3 hours at premium cost; in a day at lower cost.

This summary also provides control totals which are checked each time the file is updated.

Exhibit V is an example of a special analysis. Such a request for data can be "programmed" in 15 minutes or less and the results obtained in another 15-20 minutes.

This (Exhibit VI) printout lists the enrollment in courses which were funded i.e., (for which there are commitments) for one county sorted by LEA and program within LEA, showing enrollment in each category. Totals could also easily be computed.

Exhibit III

FY 73 LISTING 14 AUG 72 CHANGES THROUGH BATCH 19
BY PURPOSE
NOTE --- 'APPL' MEANS PROGRAM

PURP-USE	CO	LEA	LEA-NAME	APPL	COURSE	PRO-SAL	TRAVEL	SUPPLS	EQUIP-PR	EQUIP-RT	MISC-CST	RECM-AMT	COMM-AMT	REQT-AMT
DIS														
	13	3570	NEWARK BOARD OF EDUCATION											
				B	02	6270	300	0	0	0	0	6570	6570	15677
					03	8316	300	0	0	0	0	8616	8616	16982
					04	7260	300	0	0	0	0	7560	7560	15576
				D	01	3550	0	0	0	0	650	4200	4200	20623
					02	7884	300	0	0	0	0	8184	8184	13750
					03	3892	300	0	0	0	0	4192	4192	17500
					04	4113	300	0	0	0	0	4413	4413	16800
				H	03	4180	300	0	0	0	0	4480	4480	17070
					04	17260	300	0	0	0	0	17560	17560	17610
					06	4403	300	0	0	0	0	4703	4703	17961
					07	7810	300	0	0	0	0	8110	8110	15970
				I	02	5700	300	6300	5000	600	4160	22060	22060	28120
				J	01	980	700	600	0	0	600	2880	2880	17570
					03	980	700	600	0	0	600	2880	2880	19100
		3880	ORANGE BOARD OF EDUCATION											
				C	01	2750	220	250	210	0	0	3430	3430	12315
				D	102	10000	200	1600	2000	0	0	13200	13200	24250
				F	01	2200	0	0	0	7920	0	10120	10120	17400
				H	04	3781	275	0	0	0	0	4056	4056	13131
				J	01	980	1040	434	0	0	0	2454	2454	1574
					02	980	1040	434	0	0	0	2454	2454	1574
					03	980	1150	0	0	0	0	2130	2130	1350
				L	01	4700	500	200	0	0	1600	7000	7000	10300
		5680	WEST ORANGE BOARD OF EDUCATION											
				H	02	3500	300	0	0	0	0	3800	3800	12466
	15	0860	CLAYTON PUBLIC SCHOOLS											
				E	01	1098	125	250	100	0	0	1573	1573	3495
					02	1098	125	250	100	0	0	1573	1573	3495
				J	01	980	900	0	0	0	600	2480	2480	7245
		0870	CLEARVIEW BOARD OF ED											
				H	02	3998	250	0	0	0	0	4248	4248	6740
				I	01	1875	300	2844	1870	0	0	6889	6889	14078
		1100	DEPTFORD TOWNSHIP BOARD OF EDUCATION											
				A	01	5022	0	1906	0	0	0	6928	6928	6928
				F	03	1188	0	0	0	0	0	1188	1188	1188
				H	08	3065	300	0	0	0	0	3365	3365	6529
				J	01	980	900	640	0	0	800	3320	3320	11902
		1715	GATEWAY REGIONAL BOARD OF EDUCATION											
				J	01	980	760	0	0	0	2100	3840	3840	5255
		1730	GLASSBORO BOARD OF EDUCATION											
				J	01	980	1000	326	0	0	2200	4506	4506	8597

purpose

Exhibit IV

COMMITMENTS BY PROGRAM AND PURPOSE
AUG 20 --- THROUGH AUG 20
PURPOSE

APPL	A	D	DIS	L	G	HFN	PS	S	
A	0	13566	10900	268920	0	0	20542	79259	487848	880543
B	14600	103511	0	611403	0	1460146	15920	374156	311125	2915855
C	0	60559	0	92750	0	65744	52587	3560352	547166	4383106
D	0	40539	0	354431	521517	81041	37350	373525	82727A	2044169
E	0	0	0	63434	1933926	0	24596	0	5588	2033222
F	0	50087	24055	80650	0	1090500	72004	1501481	5481597	8071574
G	0	183165	0	55127	0	0	0	2907394	1431980	4584666
H	14600	566486	54550	3329071	0	1456350	504557	1141313	9930342	17785967
I	0	0	0	304665	0	0	3394836	103400	14880	656881
J	0	64135	0	1036254	0	0	210977	0	788267	2087617
K	0	0	15621	13337	0	0	25850	0	0	394371
L	0	5366	14353	542050	0	0	0	164555	746094	1482462
M	0	5433	0	0	0	0	0	0	0	540831
N	0	0	532525	317027	0	0	0	884438	192002	2058492
SCOT	0	0	0	0	124600	0	0	0	0	124600
TOTAL	33100	1688355	1087414	10571662	2591143	4557295	4867389	11174373	20764245	56943456

update control

revenue source

totals by program

overall total

program (subject)

state activities treated as programs

totals by source

Exhibit V

PERCENT OF REQUESTED AMOUNT THAT WAS FUNDED BY COUNTY

CO	COMM-AMT	REQT-AMT	PERCENT
01	253712	1436700	17.8
03	883850	4853817	18.2
05	382284	2487015	15.8
07	592356	5270809	10.9
09	138570	430580	32.2
11	256536	1410142	18.8
13	1041570	3899754	26.5
15	425101	2048537	20.5
17	536383	2202206	24.4
19	151210	723857	20.9
21	606467	3473767	17.5
23	2296111	7518016	30.5
25	621127	3368897	18.8
27	311301	5110211	6.5
29	356728	1917309	18.6
31	474873	3067003	15.5
33	312113	1384110	22.5
35	296066	1111932	26.1
37	131107	740316	17.7
39	984075	5292380	18.6
41	88004	383328	23.0
44	35908	132209	27.2

committed amount

original requests

percent commitment at request

county codes

>
10.05.34

(This data is only an example -- not reflecting actual allocations)

NUMBER OF RECORDS IN TABLE= 928 LINES= 27

Exhibit VI

PAGE 1

ENROLLMENT BY TYPE IN LEAS IN COUNTY 07

CO	LEA	STUTY D	H	R
07	00CC	65	0	40
	0150	0	0	32
	0160	0	0	82
	0200	0	0	121
	0390	0	30	1309
	0580	0	0	50
	0600	2682	30	1192
	0700	186	254	5388
	0800	149	17	510
	0940	65	25	80
	1255	0	0	14
	1770	483	0	89
	1780	56	0	0
	1880	6	0	120
	1890	0	0	1592
	1900	0	0	14
	2500	22	8	0
	2670	0	0	170
	2810	127	20	382
	3770	0	0	60
	4000	202	0	0
	4730	41	3	206
	5035	89	2	9
	5080	90	0	42
	5400	0	6	290
	5820	0	0	54
	5900	0	0	82

student type

disadvantaged

handicapped

regular

County (data can be obtained for any or all counties or LEAs)

To show the simplicity of the report generator, this is the "program" that produced this table. Note the English-type statements.

a table is wanted — TABLE

heading — HEADING
ENROLLMENT BY TYPE IN LEAS IN COUNTY 07

source of data — FILE VOCED

column definers — WRITE STU ACROSS STY BY CO BY L

write (or sum) — IF STY IS R OR D OR H

row definers — IF CO IS 07

eliminates error records — IF L IS-NOT WXYZ IF A IS-NOT WXYZ IF C IS-NOT 999

IF PL IS COMM IF RS IS 90-576 IF SA IS-MORE-THAN 0

END

if committed funds

if revenue source is Federal

if a commitment has been made

STU = student enrollment
STY = student type
CO = county
L = LEA
PL = plan

To go back to the allocation process:

Editing, keypunching, and entry of application (request) data for about 4500 courses takes several weeks.

After the request data are entered into the file, a computation is made. This produces a rating for each course based on:

course characteristics:	secondary, post-secondary adult, regular, disadvantaged handicapped
LEA characteristics:	dropout rate tax effort urban-suburban-rural model city status

The above are examples of the factors that may be used in a rating process. Factors may be chosen to represent program, student type, location, tax ratables per student, institution type, grade level or many other characteristics. Each of the factors has several steps or values, e.g.; location can be urban, rural or suburban; dropout rate can range from 0 to say, 30%. Each step of a variable is given a weight, e.g.:

urban	3
suburban	1
rural	2

(For continuous variables like dropout rate, the factor values are divided in deciles and each of these given a weight.)

Then the factors themselves can be weighted to represent their relative importance in judging the desireability of allocating funds. For example, location might be weighted 3 and dropout rate 2. A weighting formula is produced in which the weight of each course is the sum of its factor value weights times that factor's weight. (If there were only the two factors, the formula would be 3 (location weight) x 2 (dropout weight).

The overall rating is then used to rank the course, with the highest course (within each revenue source or purpose) obtaining preference for funds. In the actual case, in New Jersey, the ranking is used as a guide by the program specialists, who take into account their knowledge of the quality of the course and other inputs to make a final allocation.

Exhibit VII is the main analytic report. It gives the course by rank. The CUM-REQ column gives the cumulative requested amount starting with the highest ranked course within the purpose.

The analysis program that produces this report compares the cumulative request with the amount available (set by policy of the Division, guided by State and Federal requirements). Column APCD attaches an approval status, "approved" (APPR), not approved (NOT), code to each course. The data may then be sorted by program and by LEA for further analysis, with the approval status code still attached so as to guide final decisions on recommended funding.

PURPOSE: D PART D - EXEMPLARY $ AVAILABLE: 287286

RANK	ISCP	IM	CO	LEA	PROG	CRS	TCHR-SAL	CMIN	OMIN	PRO-SAL	TRAVEL	SUPPLS	EQUIP-PR	EQUIP-RT	MISC-CST	REQUEST	LOC-CONT	CUM-REQ	APPD NOTE
	C	14	33	4630	K	01	8500	300	1200	2625	0	600	0	0	1812	5037	0	5037	APPR NSTU*
	0	05	39	4290	N	03	0	1500	1500	63100	1600	4600	1200	0	27106	97406	0	102443	APPR NSTU
65	02	07	0150	K	01	0	0	0	0	0	0	900	0	0	900	600	103343	APPR	
60	14	33	4630	F	03	11000	1575	0	11000	0	1925	11130	0	0	24055	0	127398	APPR	
58	02	05	2630	N	01	16500	0	0	16500	2000	800	1200	0	23430	43930	26000	171328	APPR	
57	11	37	1980	K	01	0	0	0	0	90	5400	12600	0	0	18090	0	189418	APPR	
56	05	13	1210	D	01	10989	1680	0	10989	300	0	0	0	0	11289	0	201517	APPR	
56	05	13	1210	K	01	10120	600	868	4046	1300	1447	4230	0	3300	14925	2100	218542	APPR	
56	05	13	1210	K	02	16000	600	800	6857	175	3036	5532	0	500	16100	900	235542	APPR	
54	05	39	4160	B	01	10000	1340	0	10000	550	150	0	0	0	10700	0	246242	APPR	
54	05	39	4150	B	03	3400	1340	0	3000	1050	300	0	0	10000	14450	0	260692	APPR	
54	05	39	4160	B	02	17000	1540	0	17000	2500	750	950	0	7150	92700	0	353392	NOT	
53	02	07	0580	K	01	0	0	0	0	0	300	450	0	0	450	300	354142	NOT	
53	02	07	0640	N	01	0	0	0	0	0	4000	1000	0	0	5000	195600	354142	NOT	
53	07	23	4850	N	01	17500	1100	0	17000	1600	1000	2150	0	15000	36750	6000	396892	NOT	
52	02	07	5930	K	01	0	0	0	0	0	0	450	0	0	450	300	397342	NOT	
52	04	25	5230	K	01	8500	0	0	0	0	0	3500	0	0	3500	1500	402342	NOT	
52	05	13	3800	K	01	9000	360	1140	0	340	132	4022	0	2300	6794	13200	422266	NOT	
52	02	05	2630	A	01	14500	200	800	2900	500	5000	2000	500	0	10900	0	433166	NOT	
51	06	31	3970	K	06	0	0	0	0	0	0	845	0	400	1245	300	434751	NOT	
51	06	31	3970	K	02	0	0	0	0	0	0	845	0	400	1245	300	436296	NOT	
51	06	31	3970	K	08	0	0	0	0	0	0	845	0	400	1245	300	437241	NOT	
51	06	31	3970	K	07	0	0	0	0	0	0	845	0	400	1245	300	438486	NOT	
51	06	31	3970	K	10	0	0	0	0	0	0	845	0	400	1245	300	439731	NOT	
51	02	07	2670	K	C1	0	0	0	0	0	0	2700	0	0	2700	1800	442431	NOT	
50	02	15	1100	A	01	10044	1855	0	5022	0	1906	0	0	0	6928	8025	457384	NOT	
50	02	15	0860	K	01	0	0	0	0	0	0	5705	0	2695	8400	2100	467784	NOT	
49	02	07	5560	K	01	0	0	0	0	0	0	450	0	0	450	300	468234	NOT	
49	02	15	5500	B	02	13700	250	1500	1957	300	100	0	0	0	2357	0	470591	NOT	
49	02	15	5500	B	01	13700	500	1250	3914	0	300	300	0	200	4714	0	475305	NOT	
49	02	15	5500	B	03	13700	750	1000	5871	600	600	1000	0	0	8071	0	483376	NOT	
49	05	03	2740	H	01	13500	1600	0	13500	500	0	0	0	0	14000	0	497376	NOT	
48	05	39	4670	K	02	10300	1500	0	0	0	500	700	0	0	1200	10300	508576	NOT	
48	05	39	4670	K	01	8300	1500	0	0	0	500	700	0	0	1200	8300	518776	NOT	
48	11	37	3590	K	01	0	0	0	0	0	0	1800	0	0	1800	1800	521576	NOT	
48	02	15	5500	K	01	0	0	0	0	0	0	3260	0	1925	5185	1200	526736	NOT	
47	02	07	5080	K	01	0	0	0	0	0	0	900	0	0	900	600	527636	NOT	
47	02	07	0200	K	01	0	0	0	0	0	1200	1800	0	0	1800	1200	530436	NOT	
47	09	19	1510	N	01	14300	900	900	7150	465	294	940	0	0	8849	0	539285	NOT	
47	07	23	3530	N	01	11000	1680	0	11000	1000	9000	0	0	0	21000	0	560285	NOT	
46	02	07	1890	K	04	8375	120	1380	0	0	200	100	0	0	300	300	560585	NOT	
46	02	07	5820	K	01	0	0	0	0	0	0	450	0	0	450	300	561035	NOT	
46	02	07	1890	K	01	16943	120	1380	0	0	400	200	0	0	600	600	561635	NOT	
46	02	07	1890	K	02	53639	120	1380	0	0	1200	600	0	0	1800	1800	563435	NOT	

Cut off in tentative funding

-17-

RANK — course identifier — requested amounts (details) — total — local contribution — cumulative amount within purpose

*NSTU = no students (research, teacher training, etc.)

To show the power of the report-generator, Exhibit VIII is a listing of courses operated by LEAs that are within Federal model city areas which did not receive funds (from the sources considered in this data base).

(This printout is not complete.)

Input forms can be produced on the system. Exhibit IX is used to enter the next year's data for courses already in the system (continuing). Note, that if the file contains certain fields (e.g. course-name) they are printed-out. If the data are not in the file (not entered in the previous years), a blank (underlined) is printed on the form so that the data can be entered.

Modifications to this system may be easily accomplished for any fund allocation desired. Through a system such as this, fund allocation problems are reduced. Retrieval of information is effected easily and quickly. Data correction and up-dating is no longer a difficult task. And, perhaps most importantly, simulations can be inexpensively carried out to assist in understanding what will happen to allocations to various programs and LEAs if weight factors (priorities) are changed. This system is described in detail in Volume IV.

Exhibit VIII

**** COURSES NOT FUNDED IN FEDERAL MODEL CITY LEAS

CO	COUNTY	LEA	LEA-NAME		APPL	COURSE	REQUESTED SRC-AMT	
13	ESSEX	1	EA	HIGH SCHOOL	B	02	11837	——amount requested
					E	06	80911	
						11	8210	
					F	02	21791	
						04	28170	
						05	28170	
					H	01	102307	
						02	31205	
						03	14111	
						04	29682	
						05	20833	
					L	03	24005	
		3	N	BOARD OF EDUCATION	F	101	13117	
						103	10020	
						104	10752	
					H	01	7226	
						02	10755	
						05	11086	
						11	22291	
						12	23472	
17	HUDSON	2	HO	BOARD OF EDUCATION	F	02	42970	
						03	20090	
					G	01	22966	
						02	10485	
		2	JE	BOARD OF EDUCATION	D	04	11368	
					H	01	30890	
					M	06	1500	
21	MERCER	5	T	PUBLIC SCHOOLS	C	03	2686	
					D	03	8721	

(example stopped here)

Exhibit IX

PAGE 1

******WORKSHEET FOR 90-576 FUNDING FOR CONTINUING COURSES FOR FY74
SEPT. 72 **** THIS PAGE LISTS COURSES OR PROJECTS FOR WHICH APPLICATION .
WAS MADE IN FY 73. ***REFER TO PAGE 3 OF GUIDELINE ***

CHIEF ADMINISTRATIVE OFFICER _____

COUNTY SUPERINTENDENT _____

CO-LEA	APPL	COURSE	CRSE-NAME	SCHOOL-NAME	OECODE / 74COST&	74TOTAL	FIRST_YEAR
--		73REQT	74COSTS				
03-1360	B	01	_____	EMERSON	OECODE_____		
		4030	74PRO_SAL_____TRAV_____SUPPLS_____EQ_PUR_____EQ_RENT_____		SAL_OTHER_____MISC_____	_____	_____
		02	_____		OECODE_____		
		5019	74PRO_SAL_____TRAV_____SUPPLS_____EQ_PUR_____EQ_RENT_____		SAL_OTHER_____MISC_____	_____	_____
		03	_____	EMERSON	OECODE_____		
		5599	74PRO_SAL_____TRAV_____SUPPLS_____EQ_PUR_____EQ_RENT_____		SAL_OTHER_____MISC_____	_____	_____
		04	_____		OECODE_____		
		5957	74PRO_SAL_____TRAV_____SUPPLS_____EQ_PUR_____EQ_RENT_____		SAL_OTHER_____MISC_____	_____	_____

blank for course name

course identifier

previous year request for reference

separate sheet for each program area within LEA

PAGE 2

____**WORKSHEET FOR 90-576 FUNDING FOR CONTINUING COURSES FOR FY74
SEPT. 72 **** THIS PAGE LISTS COURSES OR PROJECTS FOR WHICH APPLICATION .
WAS MADE IN FY 73. ***REFER TO PAGE 3 OF GUIDELINE ***

CHIEF ADMINISTRATIVE OFFICER _____

COUNTY SUPERINTENDENT _____

CO-LEA	APPL	COURSE	CRSE-NAME	SCHOOL-NAME	OECODE / 74COST&	74TOTAL	FIRST_YEAR
--		73REQT	74COSTS				
03-1360	E	101	HOME ECONOMICS	EMERSON JR SR H S	090101		
		15297	74PRO_SAL_____TRAV_____SUPPLS_____EQ_PUR_____EQ_RENT_____		SAL_OTHER_____MISC_____	_____	_____
		102	CONSUMER EDUCATION	EMERSON JR SR HIGH SCH	090104		
		7200	74PRO_SAL_____TRAV_____SUPPLS_____EQ_PUR_____EQ_RENT_____		SAL_OTHER_____MISC_____	_____	_____

name already in file and so printed out